

**RHIC SHUTDOWN SCHEDULE – rev. 1**

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**SHUTDOWN REQUEST PRIMARILY FOR ACCESS TO IR'S BY  
EXPERIMENTERS**

**SHUTDOWN PERIOD: WEDS., Feb. 26, 2003, 0900 TO 1700HRS(SYSTEMS  
READY FOR BEAM BY 1700HRS)**

**BOOSTER POL. PROTONS BEAM STUDY BEGINS 0900HRS.  
WEDNESDAY UNTILL CHANGEOVER TO RHIC INJECTION**

**AGS – Brief access(1100-1130)**

**BOOSTER – NO ACCESS**

**ATR/DWN RESTRICTED ACCESS – WEDS. 1000 TO 1600**

**RHIC IR's – RESTRICTED ACCESS –0900 to ?? most sweeps completed by  
1800hrs**

**RHIC TUNNEL RESTRICTED ACCESS PERIOD - 0900 to 1630 (SWEEPS  
BEGIN AS JOBS ARE COMPLETED) – HP surveys required for beam dump  
and injection line. Additional surveys requested for sect. 8 north of PHENIX  
through sect 9,IP10 in sect. 10 and BRAHMS/sect. 2**

**PRIMAY JOBS:**

JOBS STATUS CODE: **C** complete **IP** in-process **RS** reschedule **CAN**  
cancelled

\* additions

**AGS RING ACCESS JOBS**

- RS** 1. Main Magnet serial number inventory(M. Hemmer)
- RS** 2. Test Ring exhaust fans(AC Grp)
- 3. Repair G14 PUE
- 4. Install instrumentation at C20

### **AGS EXTERNAL**

- RS** 1. Vacuum – check/repair all IPPS(A10, E-18, H-10)
- RS** 2. Vacuum – compile list of suspected bad ion pump cables
- RS** 3. AC Dipole(A10 Hse.) – tie-in new electrical feeds(electricians)
- 4. Vacuum A-10, E-18, H-10 - Repair AGS IPPS - Check all that are ON, replace control cards and chassis where needed
- 5. Vacuum A-10, E-18, H-10 - Compile list of suspected bad ion pump cables

### **BOOSTER RING ACCESS JOBS**

- RS** 1. Replace emergency light batteries at plug door
- RS** 2. Check and drain air lines

### **BOOSTER EXTERNAL**

- RS** 1. Check Bldg. 914 Pump Hse. spare air compressor unit
- RS** 2. Replace switches on timing decoder board with jumpers.(Ctrls Grp)

### **NSRL ACCESS**

- RS** 1. Target area access controls wiring.

### **NSRL EXTERNAL**

- RS** 1. Bldg. 958 heating – check heaters at outdoor A/C units inside berm fence

### **ATR ACCESS JOBS**

- 1. Drain air lines (FES)

### **X/Y ARCS**

- 1. X Arc – install water filters
- 2. Install water filters for Arcs and ATR in 100P, 1005, 1007, and A Rect. Hse..

## **RHIC ACCESS JOBS**

1. P.S.'s – repairs(See List)
2. Stochastic Cooling(sect. 2) – install thermocouple equip.(Gassner)
3. Inspect entire tunnel for condition of ice balls.(Zapasek)
4. Injection Kicker – swap out Blue #1 & #2 magnet(Sect. 6). (Bm. Comp.)
5. Roman Pots(sect. 1 & 2) – Modifications/repairs/testing for administrative controls(Bm. Comp.)
6. Beam Scraper(sect. 7) – modify camera for auto gain control(Bm. Inst.)
7. Pin Diodes(sect. 7 & 8) – Pull and terminate cable extensions and install devices(Bm. Comp.)
8. Perform PM's on alcove A/C units
9. Perform PM's on fire alarms in sectors 10&12
- 10 IPM's work at 1 & 2(Connolly)
- 11 Install shielding in sector 7 & 8 for PHENIX(Pearson). Requires opening and closing of the shielding accesses(8hrs.)

### **Controls Systems:**

1. Troubleshoot 2amp delta readback Iref and I from Y08-QS3-PS in alcove 1009A

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### **CRYO Systems:**

1. Access to 3q14 and 1q14 for JT valve actuator repairs.

### **Vacuum Systems:**

1. Replace the following gauges.....  
**Cryostat:** bi12-cc-pi21, bi4-cc-pi21, g11-cc-pix.1, g12-cc-pi2, yi11-cc-pi21, g11-cc-pix.1
2. **Reconnect/Replace TMPS cold cathode gauges:**
  - a) yo12-cc-pi14.2
  - b) bo3-tmp-pi21
  - c) yo5-tmp-pi6.1 (gauge disconnected?)
  - d) bi5-tmp-pi13.1 (gauge disconnected?)
  - e) bi5-tmp-pi21 (gauge disconnected?)
  - f) g5-tmp-pi1
  - g) g7-tmp-pi1
3. **These gauges do not read remotely:**  
g1-tmp-pi1 (NO REPLY since 2/1, bad UPS?) o.k. locally  
g5-tmp-pi1 (NO REPLY since 2/7, bad UPS?) o.k. locally  
g7-tmp-pi3.1 (bad gauge?) o.k. locally

4. Remove turbo from yo1 (stochastic cooling pickup tank)
5. Repair / replace air regulator in 10:00 arc
6. Fix/replace bad TMP gauge controller cards
7. Troubleshoot/Replace cable for bi4-ip-pw3.2 (cable shorted, likely the short bakeable cable).
8. **Check TMPS operation:**
  - a) bi9-tmp-pi21 (pressure rising in cryostat - now up 1/2 decade).
  - b) g3-tmp-pi1 (Not responding to open cryo iso valve command)
  - c) g7-tmp-pi3.2 (possible bad gauge)
  - d) bo7-tmp-pi4.1 (Does turbo exist here?)
  - e) g1-tmp-pi1 (No Reply)
  - f) g5-tmp-pi1 (No Reply)
  - g) bo6-tmp-pi8.1 (gauge controller RESET – Comm problem?)
  - h) g4-tmp-pi1 (Check CCG controller cards)
  - i) yi7-tmp-pi21 (Check CCG controller card)
  - j) bo10-cc-pi21 (second CC) Gauge off, unplugged
9. **Check cryostat CCG cards:**  
 yi3-cc-pi4.2, g4-cc-pi2, bi9-cc-pc12 (reading garbled)
10. **Bad cold bore gauges** (Check cables/controllers/electronics on gauge):  
 yi11-cc-pc18, yi2-cc-pc20/bo2-cc-pc20 (No readings entire run)

## **RHIC EXTERNAL**

1. Power supplies. See P.S. List
2. Main Mag. P.S. - replace switches on timing decoder board with wire jumpers
3. Vacuum 1002B – replace bo2/yi2-ip-pw3.2 controller(bad RS-485)
4. 1010 BLM2 – troubleshoot module(Bm. Inst.)

## **Controls Systems:**

1. 1004B – replace WFG in 4B-PS1 for BO3-Qf2-PS and BO3-QD3-PS
2. 1003A,B,C – install voltage monitoring boards in chassis
3. 1000P – move V102 timing decoder board from cfe-wh-inst1 to cfe-wh-ps1 for chipmunk scaler trigger.

## **RHIC POWER SUPPLIES(Bruno)**

1. Ice Ball Checks.
2. Keep an eye on y2-dh0-ps and yo9-dh0-ps fiber optic interface cards. For now no work is scheduled.
3. Go into all blue dhx and dh0 qpa's and tag controller cards. Tag should say that this controller card must be replaced only with a controller card that is labeled for a blue dhx or dh0 qpa.
4. In the tunnel take a sample of green stuff from Power leads on magnets.
5. In 1010A, if there is time we may want to check more tq power supplies for shorted IGBT's by looking at the AC current during a turn ON.
6. If time allows go around and start screwing in all cards in 3u chassis.
7. More Q6 time constant testing and finally installing final improvement of q6 time constant.
8. Swap out isoamp board for y8-dh0, SET UP JUMPERS CORRECTLY!! Next time (NOT THIS TIME) maybe try current regulator because of glitch on ramp on 2/1/03 at 21:12:11.
9. Check why b2-dh0-ps tripped to the OFF state, on 2/8/03.
- 10 Replace broken fans in y12-q7-ps and b12-q7-ps. Main yellow and blue quad power supplies must be locked out for this.
- 11 yi11-qd2-ps caused a QLI on 2/23/03, 12:28. The current and voltage were oscillating but the ref was clean. Replace current regulator card

### **Dynapower Fan Replacement Work to Do**

<b>Dynapower P.S. With Bad Fan</b>	<b>Problem</b>	<b>Comments</b>	<b>P.S. Serial Number</b>
B12-q7-ps	Center Fan not working. Since you need to get into back you must lock out this p.s. and blue main quads.		
Y12-q7-ps	Rear Fan not working. Since you need to get into back you must lock out this p.s. and yellow main quads		

### **Gamma-T Power Supplies**

1. Solder wires in for bi5-qgt-ps because it tripped to the OFF state and also check if AC connections in terminal block are tight. If any others trip then check their AC connections too.
2. Label any Gamma-T circuit breakers that have not been labeled yet.

### **Main Power Supplies**

1. The differential air vane switch for the blue main dipole ramp (or flattop) will be replaced.

### **Snake and Spin rotator p.s. Work**

1. More p.s. testing.
2. Label the rest of the circuit breakers

### **ATR Power Supplies**

1. Run X-ARC90 in voltage mode
2. Move Dranetz to Y-ARC90
3. Test SWM p.s. setpoint buffer if ready.
4. Tom Nehring may swap circuit breakers 42 and 44

### **OPA D Connectors**

1. Replace hardware with proper hardware so D connector is tight.

### **Corrector Power Supplies**

1. Controls must check MADC problem of yo8-qs3-ps because the iref is 2Amps lower than current.
2. See Table below for our work

### **Corrector p.s. work to do –see table below:**

<b>Corrector P.S.</b>	<b>Action (2/19/03) On all of these check AC connections and connections at the magnet.</b>	<b>Comments – What was really done- What was found</b>	<b><i>Serial Number</i></b>
Bo3-qs3-ps	Measure iref and current into MADC's. If they both look good call controls because iref does not show up on pet page.		
Yo8-tv15-ps	Trips OFF, replace micro only		
Yo5-dod3-ps	Trips OFF, replace micro only		
Yo5-dec2-ps	Trips OFF, replace micro only		
Yo4-qs3-ps	Trips OFF, replace micro only		

### **Temperature Sensors**

1. Install Temperature sensors on magnet trees near dump for test